

AMENDMENT TO THE CLAIMS

1-14. (Canceled)

15. (Currently amended) A method for fabricating a semiconductor light-emitting device, comprising the steps of:

a) forming, on a substrate of a single crystal, a semiconductor multilayer film including at least two semiconductor layers having mutually different conductivity types;

b) ~~separating the substrate from the semiconductor multilayer film;~~ forming a first electrode on a surface of the semiconductor multilayer film, wherein the first electrode has a reflectance of 55 % or more with respect to light emitted from the semiconductor multilayer film;

c) ~~forming a first electrode on a surface of the semiconductor multilayer film and forming a second electrode on the opposite surface of the semiconductor multilayer film; and forming a thick metal film over the first electrode, wherein at least part of the first electrode includes a different material than that of the thick metal film;~~

d) ~~forming a metal film over one of the first and second electrodes, wherein the metal film has a thickness of 10 μm or more~~ separating the substrate from the semiconductor multilayer film; and

e) forming a second electrode on a surface of the semiconductor multilayer film opposite to the surface of semiconductor multilayer film on which the first electrode is formed.

16. (Original) The method of claim 15, wherein the semiconductor multilayer film is made of a Group III-V compound semiconductor containing nitrogen as a Group V element.

17. (Currently amended) The method of claim 15, wherein in the step d, irradiating light having a wavelength at which the light passes through the substrate and is absorbed in part of the semiconductor multilayer film is applied onto the surface of the substrate opposite to the semiconductor multilayer film, so that a decomposition layer is formed inside the semiconductor multilayer film by decomposition of part of the semiconductor multilayer film, thereby separating the substrate from the semiconductor multilayer film.

18. (Original) The method of claim 17, wherein the irradiating light is pulsing laser light beam.

19. (Original) The method of claim 17, wherein the irradiating light is an emission line of a mercury lamp.

20. (Original) The method of claim 17, wherein the irradiating light is applied such that the substrate is scanned within the surface thereof.

21. (Original) The method of claim 17, wherein the irradiating light is applied, while heating the substrate.

22. (Withdrawn) The method of claim 15, wherein in the step d, the substrate is removed by polishing, thereby separating the substrate from the semiconductor multilayer film.

23. (Withdrawn) The method of claim 15, wherein the step a) includes the steps of:
partially forming the semiconductor multilayer film, and then applying irradiating light, having a wavelength at which the light passes through the substrate and is absorbed in the semiconductor multilayer film, onto the surface of the substrate opposite to the semiconductor multilayer film, thereby decomposing part of the semiconductor multilayer film to form a decomposition layer inside the partially formed semiconductor multilayer film; and
forming the rest of the semiconductor multilayer film on the partially formed semiconductor multilayer film, after the decomposition layer has been formed.

24. (Withdrawn) The method of claim 15, further including the step ~~[[e]]~~ f) of forming another multilayer film made of a dielectric or a semiconductor on the semiconductor multilayer film, and then patterning said another multilayer film, between the steps a) and ~~[[b]]~~ d),
wherein ~~[[in the step c),]]~~ one of the first and second electrodes is formed on the patterned multilayer film, and
in the step ~~[[d]]~~ c), the thick metal film is formed on the electrode formed on the patterned multilayer film.

25. (Withdrawn) The method of claim 24, ~~wherein in the step c),~~ the other one of the first and second electrodes is formed on the surface of the semiconductor multilayer film opposite to the multilayer film after the substrate has been separated from the semiconductor multilayer film.

26. (Currently amended) A method for fabricating a semiconductor light-emitting device, comprising the steps of:

a) forming, on a substrate of a single crystal, a semiconductor multilayer film including at least two semiconductor layers having mutually different conductivity types;

b) ~~separating the substrate from the semiconductor multilayer film;~~ forming a first electrode on a surface of the semiconductor multilayer film;

c) ~~forming a first electrode on a surface of the semiconductor multilayer film and forming a second electrode on the opposite surface of the semiconductor multilayer film;~~ forming a thick metal film over the first electrode;

d) ~~forming a metal film over one of the first and second electrodes~~ bonding a first supporting material, which is made of a plastic material or a metal, onto the thick metal film for supporting the semiconductor multilayer film;

f) ~~bonding a first supporting material, which is made of a plastic material or a metal, in film form for supporting the semiconductor multilayer film onto the semiconductor multilayer film, the first supporting material being made of a material different from a material constituting the semiconductor multilayer film, between the steps of a) and b);~~ and forming a second electrode on a surface of the semiconductor multilayer film opposite to the surface of semiconductor multilayer film on which the first electrode is formed; and

g) peeling off the first supporting material from the thick metal film on the semiconductor multilayer film, ~~after the step b) has been performed.~~

27. (Currently amended) The method of claim 26, between the steps f) and g), further including the steps of:

h) bonding a second supporting material ~~in film form having different properties from those of the first supporting material~~ onto the surface of the semiconductor multilayer film and the second electrode opposite to the first supporting material; and , after the step b) is performed and before the step g) is performed; and

~~i) peeling off the second supporting material from the semiconductor multilayer film, after the step g) has been performed after the step of g),~~

i) etching the thick metal film selectively at the periphery of the device area to form an opening; and

j) cutting the device to pieces or selectively etching the semiconductor multilayer film through the opening of the thick metal film; and

k) peeling off the second supporting material from the device.

28. (Canceled)

29. (Previously presented) The method of claim 26, wherein the plastic material is a polymer film, and

the polymer film is provided, at a bonding surface thereof, with an adhesive layer that can be peeled off when heated.

30. (Withdrawn) The method of claim 15, further including the step ~~[[i)]]~~ f) of selectively forming a current-confinement film of a dielectric on the semiconductor multilayer film, before the step ~~[[c)]]~~ b) is performed.

31-33. (Canceled)

34. (Currently amended) The method of claim 15, wherein the thick metal film is made of gold, copper or silver.

35. (Currently amended) The method of claim 15, wherein the thick metal film is made by plating.

36. (Currently amended) The method of claim 15, wherein the [[metal film]] first and/or second electrode includes a metal layer located at the side thereof opposite to the semiconductor multilayer film and having a melting point of 300 °C or less.

37. (Previously presented) The method of claim 36, wherein the metal layer contains tin.

38. (Currently amended) The method of claim 15, wherein said one of the first and second electrodes ~~that is in contact with the metal film~~ has a reflectance of 90 % or higher with respect to light emitted from the semiconductor multilayer film.

39. (Currently amended) The method of claim 15, wherein said one of the first and second electrodes ~~that is in contact with the metal film~~ is formed out of a single layer made of at least one material selected from the group consisting of gold, platinum, copper, silver and rhodium or a multilayer film including at least two of these materials.

40. (Withdrawn) The method of claim 15, further comprising the step of forming a mirror structure, which is made of a dielectric or a semiconductor, between the semiconductor multilayer film and the thick metal film, wherein

the mirror structure has a reflectance of 90 % or higher with respect to light emitted from the semiconductor multilayer film.

41. (Withdrawn) The method of claim 40, wherein the mirror structure is formed to contain one of silicon oxide, titanium oxide, niobium oxide, tantalum oxide and hafnium oxide or aluminum gallium indium nitride ($\text{Al}_x\text{Ga}_y\text{In}_{1-x-y}\text{N}$) (where $0 \leq x, y \leq 1$ and $0 \leq x + y \leq 1$) and is formed to have a refractive index varying cyclically with respect to the wavelength of the light emitted from the semiconductor multilayer film.

42. (Currently amended) The method of claim 15, wherein one of the first and second electrodes provided on the surface of the semiconductor multilayer film opposite to the thick metal film is transparent.

43. (Currently amended) The method of claim 15, wherein one of the first and second electrodes provided on the surface of the semiconductor multilayer film opposite to the thick metal film is made of indium tin oxide or a metal containing nickel and having a thickness of 20 nm or less.

44. (Withdrawn) The method of claim 15, further comprising the step of forming a current-confinement film, which is made of a dielectric, between the semiconductor multilayer film and the thick metal film at the ~~[[peripheries]]~~ periphery of the semiconductor multilayer film and the thick metal film, wherein the leakage current at the periphery of the device is suppressed.

45. (New) The method of claim 15, wherein the thick metal film has a thickness of 50 μ m or more.

46. (New) The method of claim 26, wherein the total thickness of the thick metal film and the first supporting material is 150 μ m or more.

47. (New) The method of claim 27, wherein the final area of the thick metal film in the completed device is smaller than that of the semiconductor multilayer film of the completed device.